THE EDUCATO,

"Promote, then, as an object of primary importance, institutions for the general diffusion of knowledge."—WASHINGTON.

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LIFE OF THOMAS TELFORD.

ABRIDGED FROM THE LONDON QUARTERLY REVIEW.

"Thomas Telford was born in the parish of Westerkirk, in the county of Dumfries, August 9, 1757. His father, who was a shepherd in the pastoral district which divides the counties of Dumfries and Roxburgh, died before the child was four months old. His mother's name was Jenet Jackson: she lived till the year 1794, enjoying always, as she well deserved, the dutiful and affectionate regards with which this, her only son, testified his sense of the care which she had bestowed upon his infancy and growing years. He is said to have written all his letters to her in printed characters, that she might read them herself without assistance. In those days the schoolmaster was not abroad, but, what is much better, in Scotland he was at home. Burns tells us that his father's 'dearest wish and prayer was to have it in his power to keep his children under his own eye till they could discern between good and evil.' 'There being no school near us,' Gilbert Burns says, 'and our little services being useful on the farm, my father undertook to teach us arithmetic in the winter evenings by candlelight, and in this way my two elder sisters got all the education they received. The schoolhouse at which Hogg obtained the little that fell to him was almost at his parent's door. Young Telford received the rudiments of education at Westerkirk parish-school, and in the summer season assisted his uncle as a shepherd-boy. In that occupation bodily labor is not required, and being furnished with a few books by his village friends, he had time for applying his acquired power of reading to very good purpose; indeed it became a habit which always recurred when he was not too closely occupied with his profession. So sensible was he of the benefit which he had derived from these poor opportunities, that he left in his will a thousand pounds to the minister of Westerkirk, in trust for the parish library, the interest to be annually expended in the purchase of books, and a like sum for the like purpose in trust to the minister of Langholm. 'It might have excited a smile,' says the editor, 'in many of his friends, and probably Telford himself thought so, as he never hinted at the fact, that the earliest distinction he acquired in life was a poet.' A poem entitled *Eskdale*, which he reprinted at Shrewsbury when about thirty years of age, is very properly placed in the Appendix to this work. Many poems which evinced less observation, less feeling, and were in all respects of less promise, have obtained university prizes. His sense of local attachment was very strong. In his life written by himself he says,

'I ever recollect with pride and pleasure my native parish of Westerkirk, where I was born, on the banks of the Esk, in the year 1757, and where also were born that eminent brotherhood of the Malcolm family, four of whom have risen to the high rank, and the honor of knighthood, in the service of their country; of whom two have been made Grand Crosses, and one a Knight Commander of the Order of the Bath. I was for some years a school-fellow of the elder brothers of that distinguished family. Colonel Pasley has since emerged from the same neighborhood: it was left for him to demonstrate the folly of squandering the reputation of the English army in desultory expeditions. The failures at the Helder, at Quiberon, at Ferrol, even at Walcheren, had occurred in vain, when Pasley employed his classical pen in convincing the public of the wisdom of enabling the Great Captain to fight the French in successive campaigns; supplies of men and of money were no longer stinted by imprudent parsimony, and the Peninsular War terminated in the southern provinces of France. Nor ought I to omit that Colonel Pasley has applied the test of experiment to the pressure of earth, and other material, and, by thus rectifying the unfounded theories heretofore prevalent, has rendered essential service to the civil as well as the military engineer.'—pp. 14, 15.

The early part of Telford's life was spent in employment as a mason, chiefly in his native Eskdale, a pastoral district, and therefore thinly peopled, where masonry operations mostly consisted in building farm-houses, with the necessary appendages, varied only as the farm might be pastoral or arable. The greater part of the country is the property of the Buccleugh family, and within Telford's memory 'the good Duke Henry, the kind father of his tenantry and the benefactor of the district, caused it to be intersected by roads, and assisted in the improvement of the farm-houses upon his extensive estates. Most of those houses had till then consisted of one-story mud walls, or rubble-stones, bedded in clay, and thatched with straw, rushes, or heather, the floors being of earth, and the fire in the middle, having a plastered, erect chimney for the escape of the smoke, and, instead of windows, small openings in the thick mud walls admit a scanty light.' Such a house was that in the ruins of which Burns was in some danger of being buried soon after his birth. Under 'the good Duke Henry's management these mud hovels disappeared, and were replaced by comfortable dwelling-houses with convenient offices, the walls of stone and lime-mortar, slated roofs, masonry chimneys, and boarded floors.' Encouragement was afforded, paying the prime cost of the timber, slates, and lime, the tenant performing the carriage, and paying for the workmanship; and such expenses being considered at the end of the lease, he was thus enabled to effect desirable improvements, without employing too much of his own capital. The duke's surveyor furnished the plan, and the building was erected under his inspection. Most of the materials were readily procured, the lower parts of Eskdale abounding with sandstone, limestone, and coal; and, though in the upper parts of the country argillaceous scistus (not a very durable material) predominated, yet, being conveniently situated and easily quarried, it is generally employed for the bulk of the fabric, with sandstone dressings for the doors, windows, tablings, and skews of the roof.

The parish-churches in the district are plain and simple, and the manses of the ministers differ little from the best kind of farm-houses:—

"In all these convenience and usefulness only are studied, yet peculiar advantages are thus afforded to the young practitioner; for, as there is not sufficient employment to produce a division of labor in building, he is under the necessity of making himself acquainted with every detail in procuring, preparing, and employing every kind of material, whether it be the produce of the forest, the quarry, or the forge; and this necessity, although unfavorable to the dexterity of the individual workman, who earns his livelihood by expertness in one operation, is of singular advantage to the future architect or engineer, whose professional excellence must rest on the adaptation of materials and a confirmed habit of discrimination and judicious superintendence. My readers may not dissent from these observations; but few of them, unless practical men, will feel their full force. Youths of respectability and competent education, who contemplate Civil Engineering as a profession, are seldom aware how far they ought to descend in order to found the basis of future elevation. Not only are the natural senses of seeing and feeling requisite in the examination of materials, but also the practised eye, and the hand which has experience of the kind and qualities of stone, of lime, of iron, of timber, and even of earth, and of the effects of human ingenuity in applying and combining all these substances,—is necessary for arriving at mastery in the profession: for how can a man give judicious

directions unless he possesses personal knowledge of the detail requisite to effect his ultimate purpose in the best and cheapest manner? It has happened to me more than once, when taking opportunities of being useful to a young man of merit, that I have experienced opposition in taking him from his books and drawings, and placing a mallet, chisel, or trowel in his hand, till rendered confident by the solid knowledge which experience only can bestow, he was qualified to insist on the due performance of workmanship, and to judge of merit in the lower as well as higher departments of a profession in which no kind or degree of practical knowledge is superfluous. For this reason I ever congratulate myself upon the circumstances which compelled me to begin by working with my own hands, and thus to acquire early experience of the habits and feelings of workmen; it being equally important to the civil engineer, as to naval or military commanders, to have passed through all the grades of their profession.'—pp. 2, 3.

At the age of twenty-three Telford considered himself to be master of his art, as it was then practised in Dumfriesshire, and, having thus completed that practical education by which he afterwards profitted so greatly, he had an opportunity of visiting Edinburgh. This was in 1780, soon after those improvements had commenced there, which have since been extended in every direction, till the Scotch metropolis has become one of the most splendid cities in Europe, as it is in other respects one of the most striking. This visit, he says, opened to him a new and extensive field for observation, where architecture is appropriated to the purposes of magnificence as well as utility. Even in his most ambitious moods Telford could not as yet have dreamed of such distinction as it was his fortune to attain; but it is evident that he had conceived a well-founded hope of raising himself to a higher station in society by his professional skill. With this view he acquired a general knowledge of drawing, and particularly of its application to architecture, the art of delineating architecture upon paper, he says, having long been practised in the northern metropolis. He studied also all that was to be seen there connected with the profession, for the higher branches of which he was now diligently preparing himself.

'I found,' he says, 'practical illustrations of various styles of architecture in the rude features of the ancient Pictish castle, and in the lofty, tower-like dwellings, crowded along a narrow ridge under the protection of the castle; slight attempts at Roman architecture by Inigo Jones, in Heriot's Hospital; and that style more distinctly developed by Sir W. Bruce, in rebuilding Holyrood Palace after the restoration of Charles II. In the ruins of its once magnificent chapel I found varieties of Gothic architecture, from the plain Norman circular intersecting arches to the highly pointed style; for, although founded in 1128, yet the western entrance, and the other parts, denote the style prevalent in the fourteenth century; that is to say, on the outside flying buttresses, with canopied niches and highly-pointed arches upon clustered columns in the interior, thus exhibiting successive improvements.'—p. 16.

At this time too he made a diligent study of Roslyn and of Melrose; and in the year 1782, after having, as he modestly says, 'acquired the rudiments of his profession,' he considered that his native country afforded few opportunities of exercising it to any extent, and therefore judged it advisable, with many of his countrymen, to proceed southward, where industry might find more employment, and be better rewarded. With these views he made his way direct to London, and was fortunate in getting employed at the quadrangle of Somerset-place Buildings, where he acquired much practical information both in the useful and ornamental branches of architecture. Two years' residence in London gave him opportunities of examining the great public buildings there, and he had the advantage of becoming known to the most distinguished architects of that day, Sir William Chambers and Mr. Robert Adam. The former he describes as haughty and reserved, the latter as affable and communicative; and a similar distinction of character, he says, pervaded their works, Sir William's being stiff and formal, and those of Mr. Adam playful and gay; and, though he derived no direct advantage from either, his interviews with both 'convinced him that his safest plan was to endeavour to advance, if by slower degrees, yet by independent conduct.'

The next step in Telford's professional career was the superintendence of a house which was ordered to be built in Portsmouth dock-yard for the resident commissioners, and, being of considerable magnitude, in contemplation of future visits of the king, involved some degree of responsibility. The house was designed by Samuel Wyat, one of a numerous family of architects. He built it by contract, and the superintendence afforded Telford experience in house-building of a higher class and on a greater scale than he had previously been entrusted with. During three years that he attended the building of the house, and of a new chapel for the dock-yard he had opportunities of observing the various operations in the foundation and construction of graving docks, wharf-walls, and similar works, which afterwards became his chief occupation. The dock-yard works, under his superintendence, having been completed in 1787, Sir William Puntley, who was originally a border Johnstone of the family of Westerhall, in Telford's native parish, invited him into Shropshire to superintend some alterations in Shrewsbury castle. Sir William at the time represented the town of Shrewsbury in parliament, and wished to fit up the castle as a temporary residence.

During his residence at Shrewsbury, Mr. Telford had the pleasure of bringing to light some remains of antiquity, six or seven centuries older than the Norman castle. Five miles from Shrewsbury, on the eastern bank of the severn, Wroxeter stands, on the site of the Roman town Uriconium.

A farmer at Wroxeter had occasion for stones to rebuild a smith's shop which had lately been burnt down, and knowing by the dryness of the ground that there were ruins at no great depth beneath the surface, in a field near his house, he began to dig, and soon discovered a number of small pillars and a paved floor at the depth of about two feet. Upon this the excavation was suspended until Sir William Pultney gave permission to proceed. It was then continued under Mr. Telford's directions; he caused the place to be cleared carefully to a considerable extent. Coins both of the upper and lower empire were found; bones of animals, some of which had been burnt; fragments of earthen vessels, of various sizes, shapes, and manufactures, some of them black, resembling Mr. Wedgewood's imitations of the Etruscan vases; pieces of glass also were found in various places, and the whole ground was full of charred substances on different strata, with layers of earth between, seeming to indicate that the place had suffered more than one conflagration. What was of more importance, a set of Roman baths, as they were supposed to be, was brought to light, of rude construction, but sufficiently perfect in regard to the several requisite apartments. Mr. Telford made a correct plan and sundry sections of these; and the Rev. Francis Leighton, of Shrewsbury, wrote a description which was published, with plates of the plan and sections, in the ninth volume of the Archaiologia.

Continued.

The Tomb of Joseph—from Clark's Travels.

To proceed, therefore, according to the proposed method of investigation:

I.

Who were the inhabitants of this part of Egypt in the remote period to which these monuments refer?

The kingdom of Egypt, according to the best authorities admitted in chronology, had lasted about seventeen hundred years at the conquest of Cambyses. The *first Princes* spoken of in sacred scripture are those "of Pharaoh," mentioned in the books of Moses, near two thousand years before the Christian æra. The *first pyramid*, according to Herodotus, was built by *Mœris*, the last of a line of kings, from *Menes* to *Sesostris*: and therefore it must have been erected some ages before the Trojan war. Without however, placing any reliance upon this record, or attempting to assign a particular epocha for any one of these monuments, we may venture to assume, as a fact, upon the authority of all writers by whom they are noticed, that they existed above sixteen hundred years before the birth of Christ. Almost a century before that time, the prosperity of Joseph, then a ruler in this country, and a dweller in the very city to which these monuments belonged, is described as having extended "unto the utmost bounds of THE EVERLASTING HILLS." These words, as applied to the place of his residence, and the seat of his prosperity, are very remarkable. He "bought all the land of Egypt for Pharaoh," reducing all its independent provinces into one monarchy. The entire administration of this empire was intrusted to him; for Pharaoh said, "Only in the throne will I be greater than thou." In the remote period, therefore, to which the pyramids refer, "Joseph dwelt in Egypt, he, and his father's house." It is said of them, that they "increased abundantly, and multiplied; and waxed exceeding mighty, and the land was filled with them." The customs of embalming bodies, and of placing them in sepulchral chambers, were then practised; for Jacob was embalmed, "gathered unto his fathers in the cave of the field of Ephron." At the death of Joseph, he too was embalmed, but not "gathered unto his fathers." He was entombed, to use the literal expression of the Septuagint, EN THI ΣΟΡΩΙ, in Egypt. And this mode of his interment suggests a reply to the *second* quesion before proposed.

II.

Is there any thing in the pyramids, as they now appear, which corresponds with any of the known customs of this people?

The nature of a *Soros* has been repeatedly explained, upon the indisputable authority of inscriptions where this name has been assigned to a particular kind of receptacle for the dead, one of which now exists in the chamber of the principal pyramid. This kind of coffin has sometimes one of its extremities rounded, and sometimes both are squared; but its dimensions are almost always the same, and it is very generally *monolithal*, or of one stone. This is the kind of coffin which the Romans called *Sarcophagus;* and any doubt as to its use, seems to be without reason; because the *Soros*, in many instances, has borne, not only its name inscribed upon it in legible characters, but also the purport for which it was intended. The principal pyramid therefore contains that which corresponds with the known customs of a people who inhabited Egypt in the remote period to which the pyramids refer, because Joseph's body was put εν τῇ Σόρῳ. And on this fact alone, if no other could be adduced, the *sepulchral origin* of those monuments is decidedly manifest.

III.

Did any thing occur in the history of the same people which can possibly be adduced to explain the present violated state of the principal pyramid?

Previous to the consideration of this question, it may be proper ro mention, that the custom of heaping an artificial mound, whether of stones or of earth, above the *Soros*, after interment, was a common practice of the ancients. Examples of this kind have been previously alluded to in the former volumns of these travels. The most ancient form of this sort of mound was not pyramidal. However ancient the pyramids may be, a simpler hemispheroïdal or conical form seems to have preceded the more artificial angular structure. Among the pyramids of *Saccara*, which appear to be more ancient than those of *Djizza*, there are instances, as we have shown, not only of this primeval pile, but of its various modifications, until it assumed the pyramidal shape.—One example has been noticed among the pyramids of *Saccara*, of an immense mound, which corresponds in its form with the common appearance presented by ancient *tumuli* almost all over the world, as they are found in countries where the pyramidal shape was never introduced. But to proceed, in the discussion of the *third* question.

The body of Joseph being thus placed εν τῇ Σόρῳ, and buried according to the accustomed usage of the Egyptians (as manifested by the existence of one of their ancient sepulchres containing the receptacle in question,) was not intended to remain in Egypt. The Israelites had bound themselves to him by an oath, that when they left the land, they would "carry his bones" with them. Accordingly we find, that when a century and a half had elapsed from the time of his burial, the sepulchre, which during all this period had preserved his reliques in a *Soros*, was opened by the children of Israel. Their number amounted to six hundred thousand men when they went out of Egypt, beside the mixed multitude by whom they were accompanied; a sufficient army, surely, even for the opening of a pyramid if it were necessary, especially when the persons employed for the undertaking were acquainted with the secret of its entrance; having, from the very moment of the patriarch's interment, been under a solemn engagement to remove the body which they had there placed. However this may be determined, it is certain the tomb was opened; for no sooner is their departure mentioned, than we read—"Moses took the bones of Joseph with him.', Here, then, we have a record in history, which implies the violation of a sepulchre, and the actual removal of an embalmed body from the *Soros* in which it is said to have been deposited. The locality, too, of this sepulchre seems to coincide with that of the particular cemetery where this pyramid has for so many ages unaccountably borne the marks of a similar violation; its secret entrance being disclosed to view; and its *Soros* always empty. it is by no means here presumed that this circumstance *will* account for its violated state; but it furnishes a curious coincidence between the present appearance of the pyramid, and fact recorded in ancient history which *may possibly be urged* to that effect. No other pyramid has been thus opened; neither is it probable that any such violation of a sepulchre would ever have been formerly tolerated; so sacriligious was the attempt held to be among all the nations of antiquity, Egyptians, Jews, Greeks, and Romans. At the same time, there are many weighty arguments against the opinion that such a stupendous pyramid would have been erected by Joseph's posterity over his remains, even if they had worshipped him as a God, when it was known that his body was not intended to remain in the country; but the honors paid to the dead in Egypt were in certain instances, as it is evident, almost beyond our conception; and there is no saying what, in a century and a half, the piety of some hundred thousand individuals might not have effected, especially when aided by the Egyptians themselves, who equally revered the memory of Joseph, although they became, at last, inimical to his descendents. This part of the subject is not altogether essential to the end proposed: in has been introduced rather as a curious inquiry suggested by the connexion which appears to exist between the pyramids and the history of the Hebrews: it neither affects nor alters the main argument, as to the nature of these monuments in general.

IV.

Doth any record or tradition attribute the origin of the Pyramids *to the* Israelites, *or to a period equally remote with that of their residence in Egypt?*

This brings us to the last article of the inquiry. For the *record*, we have only to refer to Josephus; who expressly states it as one of the grevious oppressions which befel the Hebrews after the death of Joseph, that they were compelled to labor *in building pyramids;* and the curious memorial as given by the Jewish historan, is sustained by collateral evidence in the books of Moses. The principal labor of the Israelits is described in Exodus to be a daily task of making bricks, without being allowed a requisite portion of straw for their manufacture. The mere circumstance of six hundred thousand persons being employed at the same time in making bricks, affords of itself a proof that the building for which these materials were required could be of no ordinary magnitude. This happened, too, after the death of one of the kings of Egypt, at which time, it is said, they began "to sigh by reason of their bondage." It it therefore very probable that the pyramid at which they labored, was the sepulchre of this king; this is matter of conjecture; although it may be added, that one of the pyramids near Saccara is built of *bricks containing chopped straw.* The fact for present attention is the record preserved by Josephus, which attributes to the Israelites *the origin of certain pyramids in Egypt;* and for other evidence, proving them to have existed in a period equally remote with that in which this people inhabited the country, we may refer to the testimony of *Manetho*, whose authority is respected by Josephus, and who, from his situation as an Egyptian priest, had access to every record preserved in the sacred archives of the country.—Manetho affirms, that these structures were begun by the fourth king of Egypt, during the first dynastry; which carries their antiquity back to a period earlier than the age of Abraham. Of this nature are the records required by the last question in the proposed inquiry, without having recourse to any of the writers of Greece or Italy. As for the *traditions* which refer the origin of these monuments to the age of the Israelites in Egypt, these exist not only among the Arabians, but also among the Jews and Egyptians. The author of a book entitled *Morat Alzeman*, cited by Greaves in his *Pyramidographia*, speaking of the founders of the pyramids, says, "some attribute them to Joseph, some to Nimrod." The Arabians distinguished the pyramids by the appellation of *Djebel Pharooun*, or *Pharoah's Mountains;* and there is not one of these oriental writers who does not consider them as ancient sepulchres.

Upon these premises, thus derived from sources that are not liable to the objections urged by Pauw, being wholly independent of any notions which he supposes the Greeks to have blended with their accounts of the pyramids, the following conclusions may perhaps appear to be warranted:

I. That the Hebrews inhabited Egypt in the period to which the pyramids may be referred.

II. That the pyramids contain an existing document corresponding with the mode of interment practised by this people, and were therefore intended as sepulchres.

III. That the present state of the principal pyramid may *possibly* be owing to the circumstance related in their history, of the removal of Joseph's relics from the *Soros* in which they had been preserved.

IV. That from the records of Jewish and Egyption historians, as well as from the traditions of the country, we may attribute the origin of some of the pyramids to the Hebrews themselves; and may assign to others a period even more remote than the age in which this people inhabited Egypt.

Receipt to cure an Egg sucking Dog.—Many a brave and good dog has lost his life by too great a fondness of eggs; to avoid which hereafter, take three grains of tartar emetic and a tea spoonful of grated or scraped Indian turnip, stir them well together in an egg, give it to your dog and he will ever afterwards turn off in disgust if you offer him an egg—a simple, safe and *certain* remedy.—*Franklin Farmer.*

THE EDUCATOR.

EASTON, PA., JULY 18, 1839.

We shall announce in our next number the time of our Annual Commencement, Examinations, Speeches, &c.—And would be very much pleased to do the same for all the Colleges in this end of the State. Indeed we are peculiarly desirous of communications relative to them and to Academies and Schools.

We have particular reasons for desiring from some friend n that beautiful and enlightened Borough, an account of the Academies &c. in West Chester. Who will furnish it?

First Annual Report of the Board of Commissioners of Common Schools in Connecticut, together with the first Annual Report of the Secretary of the Board.—May, 1839.

In our last we brought down our remarks on the Secretary's Report to the third general division entitled "Principal Wants of the Common School." These in so far as they are of a general nature we shall now briefly notice.

"The first great want of our system of public schools, is a more decided, active, generous public sentiment enlisted in its support. That there is at this time a wide spread and paralizing apathy over the public mind, in relation to the whole subject—a want of proper appreciation of the immense, the inconceivable importance of good common schools to our individual, social and national well-being, is manifest, from the alarming number of children of the teachable age who are in no schools whatever, the still larger number who are in expensive private schools, the irregular attendance of those who are enrolled as pupils in the public schools, the thinly attended school meetings, both of the society and the district, and the unwillingness, not only of the public generally, but of that large class who are foremost in promoting other benevolent, patriotic and religious enterprizes, to make personal or pecuniary sacrifices to promote the increasing prosperity of common schools."

The defect here attended to is indeed the main obstacle to the success of the Common School System—In Pennsylvania, the apathy referred to, prevails to an alarming extent—While the most trifling questions of Party politics excite the liveliest interest, the most important measures in reference to education, are passed over without notice—The Press, loquacious enough on other topics, is silent on this. The people appear instinctively to know that in the present state of matters, appeals to their reason, must be followed by demands on their purse, and therefore wisely refuse to hear. One class satisfy themselves that as their fathers did without much education, so may they—another assent to all your arguments, admit the necessity of education to a free government, lament the apathy of the public mind on the subject, and having done so, rest satisfied without making a single effort to promote the cause which they affect to approve. When we consider the tendency of ignorance to perpetuate itself, and the utter impossibility of a republican government, being rightly administered by an ignorant people, and then look around us on this Commonwealth, we cannot conceal our fears for the result—Why do not those who see those things exert themselves to arrest the danger? Why do not the friends of Education. unite to rouse the people from their apathy?

After suggesting a revision of the school law as a second want the Report thus proceeds.

"But after all, do what we may to enlist the general and generous interest of the public in promoting this cause—make the organization of our schools as perfect as wisdom and experience can devise, and we must still rely, under Providence, mainly on *one instrumentality*, that is *good teachers*—well fitted for their work, and who will take a deep interest in it. How ineffectual will be the wisest system of common school instruction and management, school houses built on the best models, and with the most convenient internal arrangement, a uniform and adequate supply of books of the highest excellence, if teachers, who are to be the agents in carrying this machinery into operation, are not qualified for the task? On the contrary, defects in almost every other department could be in some measure supplied, if we but had good teachers. All admit that there is far from being a competent supply of such teachers. The deficiency is felt extensively, and a remedy loudly called for. How shall the remedy be found and applied? Shall we let the evil cure itself? We have tried this course long enough, and the evil, instead of being diminished, rather increases. Shall we rely on an advance in wages? Unquestionably, if increased pecuniary inducements, equal to what is now presented to young men of character and talents in other pursuits, were offered them as teachers of schools, we should soon find numbers taking the necessary steps to fit themselves thoroughly for the occupation. The same would be true with regard to young women, whose compensation now, in most of our districts, is altogether too low to command the services of such as are needed. The immediate and principal tendency of such a step would be, however, to call forth a supply—not necessarily and in the same degree to improve the quality of teachers. But how is the advance of wages to be secured? It might be done, as was suggested before, by distributing one half of the public money to several districts according to the average monthly rate of wages paid to teachers for six months in each;—or what would amount to the same thing in the end, except that it would be an inducement to raise money for other school purposes, by distributing it in proportion to the amount of money raised in the district, according to the numbers and taxable property in each, or by fixing a minimum price of monthly wages in every district. These measures would secure the advance of wages. But these measures cannot be adopted until a more generous appreciation of the inestimable services of good teachers prevails. So that this process resolves itself into the mere force of public sentiment, which must be slow at best, and is altogether uncertain. The public must *know*, must *see* the beneficial results of employing better qualified teachers, in the improved condition of the common schools before they will offer them the increased compensation. When the results are seen and felt, the wages of such teachers will rise by the spontaneous and cheerful efforts of the people.

But how shall we secure these results? What movement can be made either by the Legislature or by individuals? A very simple one involving but little expense and no risk; one that has already been tried and found efficacious. It is to have, at least, one Seminary for teachers. As there are some who still regard it as an experiment, it can be at first for the training of female teachers for the common schools. Such an institution, with a suitable Principal and Assistants, and especially a model school connected with it, in which theory could be carried into practice, and an example given of what a district school ought to be, would by actual results, give an impulse to the cause of popular education, and the procuring of good teachers, that could be given in no other way. The time of continuance at such an institution could be longer or shorter according to circumstances. Even a short continuance at it would often be of vast benefit. It would furnish an illustration of better methods of instruction and government than "the district school as it is" can give, which is the only model a large majority of our teachers are now familiar with. The expense to those attending need not be great, if such a seminary were moderately endowed from the public treasury, and the contributions of towns and public spirited individuals. To secure this most desirable co-operation, the State appropriation might be made on condition that an equal or greater amount be raised from other sources. Once established, it would speedily draw to it numbers of our young women, to improve the qualifications they already possess for teaching, and give the experience and skill which are necessary. If wisely managed, it would give credentials to none but the best of teachers.

They would command good wages. Those employing them would expect to give such wages. For the object in applying to this source would be to get teachers of superior qualifications at an enhanced price. The supply would create a demand. The demand would in turn secure a greater supply of well educated teachers for the primary schools. Through them better methods of teaching, by which an increased amount of instruction, and that of a more practical character, would be disseminated through a large number of districts. The good done would thus not be confined to the comparatively few who should pursue the studies of the seminary, or acquire skill and experience in the model school. Each would carry out the same methods. Enterprizing teachers, too, who had not enjoyed the same opportunity for improvement, would strive to excel those who had; and thus a wholesome spirit of emulation would be provoked among teachers."

This plan is judicious enough as far as it goes. The demand for female labor is so much less than for that of males, that a sufficient number of pupils to enter the Seminary would be secured. The labor of the establishment might be in part, performed by the pupils, and its expenses in consequence diminished. Supposing the pupils educated however, what has been gained? Females may be trained to teach but not to govern boys above a certain age. As assistants in a large school, their services are invaluable, but as principals we have great doubts of their success. They govern by appearing to yield, but this is not the training to which the youths of a Republic ought to be inured. The safety of the state requires that they should be taught prompt obedience to fixed laws and this the physical and mental constitution of the female sex disqualify them from exacting. If however, the Seminary now proposed, be regarded as an experiment merely for demonstrating the importance

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We humbly think that in this paragraph the Secretary does not shew his usual perspicacity. To teach accurately the branches required in a common school, the master's acquirements must extend much beyond the primary studies in which he is to train others. To confine ourselves to a single study. He may be able to perform all the questions in the ordinary arithmetical text-books and yet without that knowledge of the doctrine of proportion which the fifth book of Euclid imparts, he may be altogether unqualified to teach thoroughly the principles of arithmetic. Again, teaching is itself an application of the Philosophy of mind, and though he is not to lecture on that science to his pupils, he requires to have studied it to qualify him for his task. The immaturity of his pupils, faculties instead of rendering this unnecessary, does but demand it the more, inasmuch as it requires great simplicity of illustration, and a more thorough acquaintance with the workings of the mind, to adapt his instructions to their capacity. The teaching of the College then, is precisely that which the schoolmaster requires. The Academy is unsuitable for the very reason that it does not rise high enough, and the companionship is not that which is suited to his years and studies. The revision of the school course will properly enough fall under the duties of the Professor of Education—but the foundation must be laid for him in a broad and comprehensive course of study, otherways he cannot make a teacher of his pupil, be his powers what they may. Connecticut possesses the same advantages as Pennsylvania, in having Colleges to which, at a very trifling expense, Teacher's Seminaries might be appended. Why does she not endow scholarships for this purpose, and avail herself of the facilities which she already enjoys, for sending forth thoroughly qualified teachers into her schools?

The following extract from Dr. Chalmer's Political Economy, we insert, as containing a hint at the important influence of sound *moral education* towards alleviating the necessity of poor taxes. It is well known that this celebrated divine has long stood forth the champion of what may be called the voluntary system of maintaining the poor, in opposition to a system of taxation. He maintains in the work referred to, that education—especially that education which cultivates the *conscience* and produces a high and honorable moral sentiment—and that alone can secure any people against the evils of a population outgrowing the means of subsistence; or rather pressing too closely upon them. No force of law, he shews, no mere economic arrangements can meet the case. Without moral principle to govern, no amount of prosperity can secure permanent happiness among the mass of the people: and such moral sentiment can never be sustained in the absense of a liberal provision for educating the whole population. These views are, we think, founded on the true philosophy of the human constitution—a philosophy which makes the mind, the soul to constitute the man, and the body a mere temporary and often burdensome appendage to it. If the educationist succeeds in cultivating the powers of the superior nature; if he draw into right exercise the intellectual and moral energies, he secures every thing; he places the sensual appetites in subjection to reason and to truth, and people thus educated must be rich, happy and free.

"The two expedients then, of pauperism and education, stand very broadly and discernably contrasted with each other, in the influence they respectively have on the proportion which we have now dwelt upon. By the one, the proportion is turned against, and by the other on the side of, the population. The one increases, the other lessens the ratio of the numbers to the food. There is no withstanding of this operation; and there is no withstanding its consequence. And the adoption of both expedients together were most grievous impolicy. The one would neutralize, or, rather, the one, like the rod of Aaron, would swallow up, would absorb the other; and be itself of paramount influence, at least on the economic state of the lower orders. The pauperism which enlisted all the sordid and sensual appetencies of our nature on the side of improvidence, would prevail in the struggle, over all the moral counteractives of any system of education, however wise, and however energetic. The contest between a good and an evil principle, should no more be sanctioned or set agoing, by the reigning power of the state, than it is by the reigning power of the universe. In Scotland, they ordained education for the people; and in all those parishes which stand sufficiently aloof from the contagious neighborhood of England, do we behold a peasantry sustained in comparative comfort and virtuous independence. In England, they ordained a poor law; and the cry of distress and discontent is just the louder, in proportion to the lavishness of its ministrations. In Ireland, they propose to ordain both education and a poor law. This were the mechanism of human government, and a frightful disorder will be the result of it. Did the evil barely neutralize the good, so as to make on the whole an innocent composition of the two ingredients, it might be viewed with less alarm. But it will be found not to be an innocent, but a mischievous composition. Burke had the sagacity shrewdly and instantly to perceive this. His was the wisdom of intuition, so that, without formal developement, or the aid of any logical process, he often by a single

red no material difference in the effect—both being efficacious.—*Franklin Farmer.*

Will Potatoes mix?—On this subject the Editor of the Yankey Farmer says:

"Potatoes will mix in the seed that is contained in the balls; but they will not mix the tubers or balls."

Some years ago, we selected red and yellow potatoes, carefully rejecting all that had not the color distinct, that there might be no mistake.—We planted a row of one color, then another row of the other color, and so on till we had planted ten or twelve rows, amounting to five or six hundred hills.

These potatoes were planted in the usual season and blossomed as much as usual, and if potatoes are ever liable so mix, in any situation, these would have had a good *opportunity*. On digging these potatoes, not the least mixture could be perceived; each kind still continued perfectly distinct.

Besides this experiment, we have planted together red and white potatoes for six or eight years, about an equal quantity of each, the two kinds frequently planted in the same hill, and we never perceived the least mixture. Every potatoe was distinctly red or white. In planting potatoes in this manner, there was every advantage to promote mixture that could be afforded.

To make a cheap Paint or White Wash.

Take 5 quarts skimmed milk
" 2 ounces fresh slaked lime
" 5 pounds whiting.

Put the lime into a stone vessel, pour upon it a sufficient quantity of milk to make a mixture resembling cream, then add the remainder of the milk. When this is done, crumble and spread the whiting on the surface of the fluid, in which it will gradually sink. It must, after all the whiting has been precipitated, be well stirred, or ground up as you would other paint, when it will be fit for use. By the addition of any colouring matter you may make it suit your fancy.

It should be put on with a paint brush, and when dry a second coat should be given it.

The quantity mentioned is sufficient for 27 square yards.

To preserve eggs.—Apply with a brush a solution of gum Arabic to the shells, or immerse the eggs therein; let them dry, and afterwards pack them in dry charcoal dust. This prevents there being effected by any change of temperature.—*Ib.*

STEAM BOILER FOR POTATOES, &c.

Mr. Hill:—From a hint in the Genesee Farmer, I constructed a box of two inch plank, the sides and ends halved together, the corners strengthened by a strip of sheet iron nailed on—the box about the length and width of a sheet of Russia iron—a sheet of such iron being the bottom of the boiler nailed on in two rows, nails about an inch apart, a strip of thick paper being placed between the wood and iron to make all tight; the box is placed in a wall of brick, so that the wood part will be about two and a half inches from the fire on each side; the wall of such height as to allow a fire to be made under it—the flue for the smoke to pass off, car-

THE EDUCATOR.

EASTON, PA., JULY 18, 1839.

We shall announce in our next number the time of our Annual Commencement, Examinations, Speeches, &c.—And would be very much pleased to do the same for all the Colleges in this end of the State. Indeed we are peculiarly desirous of communications relative to them and to Academies and Schools.

We have particular reasons for desiring from some friend n that beautiful and enlightened Borough, an account of the Academies &c. in West Chester. Who will furnish it?

First Annual Report of the Board of Commissioners of Common Schools in Connecticut, together with the first Annual Report of the Secretary of the Board.—May, 1839.

In our last we brought down our remarks on the Secretary's Report to the third general division entitled "Principal Wants of the Common School." These in so far as they are of a general nature we shall now briefly notice.

"The first great want of our system of public schools, is a more decided, active, generous public sentiment enlisted in its support. That there is at this time a wide spread and paralizing apathy over the public mind, in relation to the whole subject—a want of proper appreciation of the immense, the inconceivable importance of good common schools to our individual, social and national well-being, is manifest, from the alarming number of children of the teachable age who are in no schools whatever, the still larger number who are in expensive private schools, the irregular attendance of those who are enrolled as pupils in the public schools, the thinly attended school meetings, both of the society and the district, and the unwillingness, not only of the public generally, but of that large class who are foremost in promoting other benevolent, patriotic and religious enterprizes, to make personal or pecuniary sacrifices to promote the increasing prosperity of common schools."

The defect here attended to is indeed the main obstacle to the success of the Common School System—In Pennsylvania, the apathy referred to, prevails to an alarming extent—While the most trifling questions of Party politics excite the liveliest interest, the most important measures in reference to education, are passed over without notice—The Press, loquacious enough on other topics, is silent on this. The people appear instinctively to know that in the present state of matters, appeals to their reason, must be followed by demands on their purse, and therefore wisely refuse to hear. One class satisfy themselves that as their fathers did without much education, so may they—another assent to all your arguments, admit the necessity of education to a free government, lament the apathy of the public mind on the subject, and having done so, rest satisfied without making a single effort to promote the cause which they affect to approve. When we consider the tendency of ignorance to perpetuate itself, and the utter impossibility of a republican government, being rightly administered by an ignorant people, and then look around us on this Commonwealth, we cannot conceal our fears for the result—Why do not those who see those things exert themselves to arrest the danger? Why do not the friends of Education. unite to rouse the people from their apathy?

After suggesting a revision of the school law as a second want the Report thus proceeds.

"But after all, do what we may to enlist the general and generous interest of the public in promoting this cause—make the organization of our schools as perfect as wisdom and experience can devise, and we must still rely, under Providence, mainly on *one instrumentality*, that is *good teachers*—well fitted for their work, and who will take a deep interest in it. How ineffectual will be the wisest system of common school instruction and management, school houses built on the best models, and with the most convenient internal arrangement, a uniform and adequate supply of books of the highest excellence, if teachers, who are to be the agents in carrying this machinery into operation, are not qualified for the task? On the contrary, defects in almost every other department could be in some measure supplied, if we but had good teachers. All admit that there is far from being a competent supply of such teachers. The deficiency is felt extensively, and a remedy loudly called for. How shall the remedy be found and applied? Shall we let the evil cure itself? We have tried this course long enough, and the evil, instead of being diminished, rather increases. Shall we rely on an advance in wages? Unquestionably, if increased pecuniary inducements, equal to what is now presented to young men of character and talents in other pursuits, were offered them as teachers of schools, we should soon find numbers taking the necessary steps to fit themselves thoroughly for the occupation. The same would be true with regard to young women, whose compensation now, in most of our districts, is altogether too low to command the services of such as are needed. The immediate and principal tendency of such a step would be, however, to call forth a supply—not necessarily and in the same degree to improve the quality of teachers. But how is the advance of wages to be secured? It might be done, as was suggested before, by distributing one half of the public money to several districts according to the average monthly rate of wages paid to teachers for six months in each;—or what would amount to the same thing in the end, except that it would be an inducement to raise money for other school purposes, by distributing it in proportion to the amount of money raised in the district, according to the numbers and taxable property in each, or by fixing a minimum price of monthly wages in every district. These measures would secure the advance of wages. But these measures cannot be adopted until a more generous appreciation of the inestimable services of good teachers prevails. So that this process resolves itself into the mere force of public sentiment, which must be slow at best, and is altogether uncertain. The public must *know*, must *see* the beneficial results of employing better qualified teachers, in the improved condition of the common schools before they will offer them the increased compensation. When the results are seen and felt, the wages of such teachers will rise by the spontaneous and cheerful efforts of the people.

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TERRACULTURAL.

MULTICAULIS CUTTINGS FAIL.

We hear very general complaints on this head: and are sorry to add our experience to the same point. Of thirty-three thousand, there is not a probability now of more than five or six thousand producing trees. The coldness of the season retards the buds planted in open culture, until many rot; and also checks such as were budded in hot beds, and produces a similar result. From what we have experinced ourselves and observed in the public prints, we fear that the failures range from four-fifths to eleven-twelfths; or, that about one tree will be produced for eight buds planted.—

me, asked for tubers, when I could not give him more than a small tuber having four eyes; he weighed it for curiosity, and found it wanted a few grains to make it half an ounce; however this small tuber being planted, produced 48¾lbs. The Attorney of the Abbey of Auterive, Canton of Fribourg, to whom I had given two tubers two years ago, and who, delighted with his first harvest, after having eaten and given some to his friends, and either before or after planted the rest, obtained last Autumn, six double-horse cart loads and eight scuttles full. It is not the largest tubers that succeed best as seed."—*Le Cultivateur, Journal des Progres Agricoles.*

Having heard from some friend then travelling on the Continent, of the above-mentioned potato, and having subsequently read the above account, I was induced to try by every means in my power, to obtain a few for seed, which I did without success; however, in the Autumn of the year 1836, I was informed by friends then living in the vicinity of Paris, that they had occasionally purchased potatoes in Paris which weighed upwards of 10lbs. each, for which they gave one *franc;* that they purchased it as a treat, and that cut in slices of about two inches thick, it boiled well, was very farinaceous or mealy, and of fine flavor. The gentleman who wrote me this account of the potato, having left the neighborhood of Paris for Spain, previous to his writing, I was at a loss where to obtain some seed, and I applied to one of the first houses in London, to try through their agents in Paris, to get me a few of the potatoes, and after considerable delay, I obtained two small tubers, with the information that they were very dear and difficult to get. About this time I had a friend arrived at Paris to spend the winter, one whose active mind I knew would be rather stimulated than deterred by any difficulty arising in obtaining what I wished—he at once kindly undertook if possible to procure me some Rohan potatoes for seed; and after a great many inquiries, a most dilligent search, and considerable expense also in the purchase, he obtained and sent me in a small basket, sixty moderate sized tubers; these I compared with the two tubers I had already received, and found them on inspection to be exactly the same sort; these tubers, though they arrived late in the planting season of 1837, I immediately planted as before described, but being under trees they suffered severely from the dry weather, yet the stems were eight feet high, and the produce was twenty-four bushels, full measure, and some of the tubes very large; my object however being to know what they would produce cultivated with the common field culture, I ploughed in the twenty-four bushels, with a moderate quantity of manure in rows, four furrows apart, or about thirty six inches, on the 10th of May last, 1838, without any other preparation than was bestowed on several acres of potatoes in the same field;—they again suffered from the dry weather, indeed to such an extent did my whole crop appear to be injured, that I had given up the hope of any satisfactory result, and I found by reference to my day-book it was not till the night of the 10th of June, and the morning of the 11th, that we had any rain sufficient to lay the dust: we took up the Rohan potato, October 18th, and the crop very large; they much amused the persons taking them up, and other observers, by their extraordinary size and produce—many of the tubers weighing from 2½lbs to 3¾lbs.; they are very farinaceous, and delicately flavored; and I have no doubt, cultivated on good land and in the way mentioned, they would reach the size specified: of this we may however rest assured—and I can recommend them as yielding the most abundant produce under ordinary cultivation—that the produce is fit for the table of the most fastidious person. One of my old men observed, when he saw the crop on the ground, "why master, I never in all my life saw any thing like this—why they would answer well to cultivate if it was only for the pigs!" And I quite agree with him; I certainly never before saw such a crop, nor potatoes so generally of such a large size;—and when we consider that they are excellent in quality, I cannot but think they will prove a desirable acquisition to the public.

G. KIMBERLEY.

From the Genesee Farmer.

RAISING SEEDS.

Acting on the principle, that every farm should produce as far as possible all that is required for its use upon it, we advise farmers to pay more attention to raising seeds. There will always be some which it will be necessary perhaps to purchase, and there are many of which exchanges will produce a good effect, but far the greater part of the seeds wanted by the common farmer may be as well produced by himself, as by another. Some little care and attention is however necessary; else, however good the seeds may be, so far as germination is concerned, the plants produced may not be of the kind desired or expected. Nearly all are aware that when plants are so situated, that the pollen or fecundating dust of the blossom of one variety is conveyed to the flower of another variety of the same species a cross will be the result, and the new vegetable or plant will be a hybrid, having a mixture of the qualities of both, perhaps, but unlike. It is owing to this easily understood cause, that the seeds of the apple, peach, cherry, potatoe, and other fruits and plants so rarely produce trees or plants like the original ones. It is this disposition to mix which is to be guarded against, and a few simple rules will enable any farmer to do this effectually.

Beets are a plant frequently injured by planting different kinds for seed near each other. Thus the red and white will produce plants neither red nor white, and frequently of an inferior quality.

Radishes of different kinds should never be planted near each other when intended for seed.

Nothing shows the effect of 'amalgamation' quicker than the planting of squashes and pumpkins near each other. The squashes will be misshapen and watery, and the pumpkins warty and hard-skinned and destitute of the sweetness belonging to the pure article.

Nearly the same deteriorating results ensue from planting gourds in the vicinity of squashes. The shell of the gourd is injured, and the squashes are rendered bitter and unpalatable.

Corn of the several kinds cannot be preserved in purity, if planted where the dust of the blossom of one kind, comes in contact readily with the silks of another.

Cabbages of different varieties are very sure to cross with each other when planted together, producing plants like neither of the original kinds.

One of the most serious injuries resulting from this tendency, is found to arise when cabbages and turnips intended for seed are planted near

each other. The cabbages produced from such seed will not head well; and the turnips, instead of fine round bulbs with small tufts of leaves, will be surmounted with a cabbage-like stem, an immense quantity of leaves, and the roots themselves will be more or less tough and woody in their structure.

Potatoes of several kinds may be planted with impunity near each other, as they are not usually grown from the seeds, but almost always from the tubers, and these are not affected by the fecundating process.

We not unfrequently hear complaints from farmers and others about their seed changing into a different and a worse kind. By a little attention to the above suggestions, this difficulty might be avoided, and good seeds grown by every one. The most perfect plants should always be selected for planting out for seed; and where this is done, and a mixture with other kinds is avoided, a change for the worse need not be feared.

BREAKING OXEN.

The mode of breaking oxen described below, appears to be as effectual as it is novel.

Spring Hill, Woodford County, Ky.

To the Editor of the Franklin Farmer:

"The onlyest way to break oxen that I ever saw,"—so exclaimed a countryman the other day, on seeing the operation. Get a strong post, eight feet long by two thick, plant it three and a half in the ground, (well rammed,) round or level the upper end and leave a pin to it or make a mortice and put a strong two inch pin, six or eight inches long in it. Then get a tough sapling twenty-five feet long; measure off at the small end the usual length of a yoke and bore the holes for your bows accordingly.—Then bore three holes (or more if you choose) four eight and twelve feet from the other end, of the size of the pin in the top of the post, place it on top of the post giving the shortest lever first, draw your steers up, let them be young or old, gentle or wild, it makes no difference; yoke them to the end of the pole, but instead of tying their tails together, if you wish to avoid bob-tailed oxen, tie their loins together with a good rope, wrap up their head halters, clear the front, and let them go;—round and round they go with a rush, drunk, drunker still they grow, until, groaning down they drop. For a while they lie panting and looking wild at length they leap up as if suddenly frightened, rush round again, grow drunk and drop again. Leave them, they will repeat the experiment, until, reeling, they will stop or stand; in a few hours you may lead them around by their halters. Uncouple them from the pole or yoke them to your cart, and drive them where you choose with safety. Any gentleman will be entitled to the above patent for life by paying five dollars to the nearest needy widow, taking her receipt for the same and filing it amongst his own papers.

Wm. P Hart.

Milking.—In the morning the cows should be driven gently two or three times round the yard before milking; they will yield more for the exercise. We have seldom hired a good milker. Females are better than men, they have more patience. A good milker will obtain at least one quarter more cream than one that milks slowly. We have often proved this; we hired one summer a man from New Hampshire who had managed a farm several years. He was clever but extremely moderate; we then had four cows in milk, and discovered that our slow milker was *fast* drying up our cows; we concluded to give him our aid let him milk only two; on the first trial he obtained the same quantity that we did. In one week we obtained on quart more than he at a milking; he said his cows were not equal to ours; we then shifted, and obtained, within nine days, more milk from his cows than he did from our's. This was wholly to be ascribed to his moderate milking, for he left none in the udder. *Boston Cultivator.*

THE SCOTTISH THISTLE.

This ancient emblem of Scottish pugnacity, with its motto, "Nemo me impune lacessit," is represented of various species in royal bearings, coins, and coats of armor; so that there is some difficulty in saying which is the genuine original thistle. The origin of the national badge itself is thus handed down by tradition. When the Danes invaded Scotland, it was deemed unwarlike to attack an enemy in the pitch darkness of night, instead of pitched battle by day; but on one occasion the invaders resolved to avail themselves of this stratagem, and in order to prevent their tramp from being heard, they marched barefooted. They had thus neared the Scottish force unobserved, when a Dane unluckily stepped with his naked foot upon a superb prickly thistle and instantly uttered a cry of pain, which discovered the assault to the Scots, who ran to their arms, and defeated the foe with a terrible slaughter. The thistle was immediately adopted as the insignia of scotland.

VALUABLE RECEIPTS.

Lake Court House, Ia. March 20, 1839.

To the Editor of the Franklin Farmer:

Dear Sir—In your paper of the 2d inst, is a "cure for the poll evil" in its incipient state.—Here is a cure for it in its worst state.

When the swelling breaks, or if it has been sometime a running sore, it will have a pipe or tube from which the matter discharges—into this crowd a lump of pearlash or potash, as big as you can with your finger. Three such applications will cure the worst case of poll evil or fistula that ever I saw. So much for horses.

In the human family, the worst cases of cholera morbus, dysentery, bloody flux, &c. that ever I saw, I have repeatedly cured in a few minutes, or hours, by a strong tea made of the bark of the sweet gum—taken green from the tree is best—steep a handful in a pint of water until the liquor is like good coffee—drink it clear or sweetened with loaf sugar, or add a glass of good brandy if the attack is very severe.

If not infallible, it is remarkable in its effects, and well worth being known and tried in every family.

Your friend, Solon Robinson.

We can add our own testimony to the value of the sweet gum tree—having experienced amazing and speedy relief from its use in a violent case of dysentery, which refused to yield to the usual remedies. We have also seen, in the last five years, its wonderful benefits in many other cases. We have used the decoction made from the bark both green and dried; and have discovered no material difference in the effect—both being efficacious.—*Franklin Farmer.*

Will Potatoes mix?—On this subject the Editor of the Yankey Farmer says:

"Potatoes will mix in the seed that is contained in the balls; but they will not mix the tubers or balls."

Some years ago, we selected red and yellow potatoes, carefully rejecting all that had not the color distinct, that there might be no mistake.—We planted a row of one color, then another row of the other color, and so on till we had planted ten or twelve rows, amounting to five or six hundred hills.

These potatoes were planted in the usual season and blossomed as much as usual, and if potatoes are ever liable so mix, in any situation, these would have had a good *opportunity*. On digging these potatoes, not the least mixture could be perceived; each kind still continued perfectly distinct.

Besides this experiment, we have planted together red and white potatoes for six or eight years, about an equal quantity of each, the two kinds frequently planted in the same hill, and we never perceived the least mixture. Every potatoe was distinctly red or white. In planting potatoes in this manner, there was every advantage to promote mixture that could be afforded.

To make a cheap Paint or White Wash.

Take 5 quarts skimmed milk
" 2 ounces fresh slaked lime
" 5 pounds whiting.

Put the lime into a stone vessel, pour upon it a sufficient quantity of milk to make a mixture resembling cream, then add the remainder of the milk. When this is done, crumble and spread the whiting on the surface of the fluid, in which it will gradually sink. It must, after all the whiting has been precipitated, be well stirred, or ground up as you would other paint, when it will be fit for use. By the addition of any colouring matter you may make it suit your fancy.

It should be put on with a paint brush, and when dry a second coat should be given it.

The quantity mentioned is sufficient for 27 square yards.

To preserve eggs.—Apply with a brush a solution of gum Arabic to the shells, or immerse the eggs therein; let them dry, and afterwards pack them in dry charcoal dust. This prevents there being effected by any change of temperature.—*Ib.*

STEAM BOILER FOR POTATOES, &c.

Mr. Hill:—From a hint in the Genesee Farmer, I constructed a box of two inch plank, the sides and ends halved together, the corners strengthened by a strip of sheet iron nailed on—the box about the length and width of a sheet of Russia iron—a sheet of such iron being the bottom of the boiler nailed on in two rows, nails about an inch apart, a strip of thick paper being placed between the wood and iron to make all tight; the box is placed in a wall of brick, so that the wood part will be about two and a half inches from the fire on each side; the wall of such height as to allow a fire to be made under it—the flue for the smoke to pass off, car-

ried about a foot beyond the end of the box; the end at the flue to be done up close to the box with brick and mortar to prevent burning. Take a board rather smaller than the inside; nail three cleats on it about three inches thick, the middle hollowed out so that the ends only will touch the bottom; bore a number of holes through the boards for the steam to pass; the top to be fitted with a tight cover. Two pails of water will steam four bushels. I have used it as a boiler, and also as a steamer. The steaming process is the best, as the work is performed in less time, with less fuel, and the food is neater and more healthy. The water drawn off after the process of steaming is very fetid and bad. It is suggested by many farmers, that the water in which potatoes are boiled should not be given to swine. The steam board should be taken out and the boiler cleaned for every third box full. A box can be made to steam ten or twenty bushels at a time, according to the number of swine to be fed. I think it better to steam every day for fatting hogs, as the food is more palatable and nourishing. I have steamed potatoes, apples, ruta baga, the common English turnip, carrots, the sugar beet, parsnips, pumpkins, and oats at the same time. All these mixed together form an agreeable, nutritious compound, which the swine devour greedily and show that they are gormands and animals of good taste. I will suggest one or two improvements, which farmers will find very convenient in practice.—After the process of steaming is over, two slides of sheet iron, one to close the mouth and the other the throat or the flue, will retain the heat forty-eight hours and a good degree of warmth for three days. This will be found very convenient in cold weather in feeding store hogs. The box also, if made of sufficient size, will be found very convenient for scalding and dressing the hogs. This may be done by fastening four pullies above the box in which two ropes may play and serve to let down the hog into the box and raise it out of the water, and a board of sufficient size slipped under the hog will serve as a table to dress it on. A space of ten or twelve feet square in a shed adjoining the hog pen will afford ample room for these operations. I need not remark how much time and labor will be saved to the farmer in the use of this simple, cheap apparatus contiguous to his piggery.

Every farmer should have a convenient yard about his piggery, and in the warm season, supply it plentifully with muck, turf, and straw, and the hog will become a working animal and pay liberally for his board and lodging, so that the farmer, in the end, will save the whole hog and his bacon in the bargain.—*Farmer's Monthly Visiter.*

DISEASE OF THE PLUM AND CHERRY.

We wish to call the attention of all lovers and cultivators of these fine fruits, to a disease long familiar to eastern fruit growers, but which has not appeared in the western sections of our country until within a short time; and which, from the progress it made in 1838, will, unless prompt measures are taken, render the growth of plums and cherries as uncertain here, as it is in the eastern states.

This disease is termed the excrescence, or blight, by some, and may be readily known by the irregular, unsightly swellings that take place on the affected branches, destroying the vigor and healthiness of the tree, and unless checked in time, multiplying to such an extent as to speedily cause the death of the tree. It was considered at first a mere exudation of sap or gum from the branches, and as many insects were found in these masses, the presence of these was attributed to the discharge from the tree, instead of the injury being charged to the insect itself.

A variety of experiments (and for many of these we are indebted to Judge Buel of Albany) proved, however, that the cause had been mistaken for the effect, and that the injury, instead of producing the insect, had been caused by that alone. It seemed probable, also, that the insect was one unable to fly, as some of the methods of prevention could have had no effect on such as were provided with wings. Thus it was found that placing turfs with the grass side down in the lower branches of trees, so as to close around the trunk, would produce a good effect, by partially preserving the trees form attack.

The increase of the evil directed the attention of entomologists at last to the subject, and papers on the blight and its cause were given to the public by several gentlemen, among whom were Professor Peck of Harvard, and Dr. Mitchell of New York. These essays threw much light on the matter, and led to a more rational mode of prevention. According to Prof. Peck, "The seat of this disease is in the bark. The sap is diverted from its regular course, and is absorbed entirely by the bark, which is very much increased in thickness, the cuticle bursts, the swelling becomes irregular, and is formed into black lumps, with a cracked, uneven, granular surface. The wood, besides being deprived of its nutriment, is very much compressed, and the branch above the tumour perishes." In examining the character and habits of the insects, Prof. P. selected a small branch, and slicing off thin pieces, found the mass was filled with larvæ. A piece of the diseased branch was then placed in a glass vial, and it was soon found that these larvæ had left the tumour, and were in a restless state at the bottom of the glass. A vessel with earth was procured, in which the larvæ buried themselves, and in twenty-four days from their leaving the bark, the perfect insect was produced.—They belong to the genus *Rhynclenœus*, and are a variety of the fly that punctures the fruit of the plumb and cherry. The investigations of Dr. Mitchell had a result very similar to those of Prof. Peck; and though some little difference has existed with regard to the identity of the insect, no doubt can remain that to a cause of this kind we owe the disease in question.

As a necessary inference from the habits of this depredator, it was found that the most effectual remedy was the careful examination of the trees, and the immediate excision of all the branches that exhibited the least signs of infection. These were committed to the flames, and thus by the destruction of the larvæ, the increase of the insects was prevented. It is evident that this will be done most effectually, when the diseased branches are cut off as soon as possible after the injury is inflicted, since though some of the larvæ may remain in the excrescence through the season, the greater part, as they arrive at maturity, will fall to the earth, where they will undergo their transformation, and emerge a perfect insect, ready to increase the evil, and perpetuate the race. The rapidity with which they cause the entire destruction of the tree attacked, should cause farmers to be on their guard, and examine their trees frequently to detect the earliest appearance of the enemy.

Thus far, its depredations have, so far as we have observed, been confined to the plum, and Morello or black cherry. Whether the other varieties of the cherry will escape, remains to be seen. We have known within a year or two some fine plum gardens almost entirely ruined from this cause; the black and deformed branches too plainly indicating the nature and rapid spread of the evil. We advise our farmers and fruit growers, then, to examine their plum and cherry trees carefully this spring, and remove every diseased branch. If it does no other good, it will enable them to detect new attacks of the disease more readily, by removing all former appearances; and there is reason to hope, that by a firm and *general* adoption of this course, these valuable fruits may be preserved from that extinction which has befallen them in many districts of the Atlantic states, or those parts of these states east of the mountains.

Since writing the preceding, we have examined an infected branch with the aid of a good glass and find in the fungus no appearance of either eggs or larvæ at this time. By carefully dividing the branch longitudinally, and slicing it off thin, the character of the mass, and the manner in which it destroys the part infected, can be clearly seen. In the parts latest attacked, the bark and surface of the wood only is affected;—while in those places in which it made its first appearance, it has penetrated to the pith, or even embraced the whole branch. The substance of the fungus is evidently the elaborated juices, that in a healthy and undisturbed vegetable action would have been converted into fruit. So perfectly now does it resemble some kinds of dried prunes, that a thin slice of one can scarcely be distinguished from the other. There is the same semi-transparency in both; though in the fungus minute portions of gum will be seen, that are not to be discovered in the fruit. We hope that farmers will be on the alert, and endeavour, by careful examination of these trees, to detect the first approach of the enemy; and by multiplied observations arrive at correct conclusions respecting the cause of this desease, and the best methods of extirpating it.—*Genesee Farmer.*

THE CORN PLANTER.—The veteran editor of the Boston Cultivator, has presented to the farmer a new implement for planting corn, and which promises to supply a great desideratum in the management of this important crop, giving ease, regularity, and certainty of distribution in planting. Cotton seeds, beans turnips, or onions are also perfectly planted by it. "On well prepared land, one man with a horse, will furrow out, drop, cover and press down the corn on an acre of ground in one hour, or ten acres in a day, thus doing the work of twenty men." The soil is pulverized for the seed by a row of cultivator teeth. The machine will deposit the seed at any depth desired, from the surface to three inches; and at the proper distance in the hills. It is expected they will be for sale or exhibition at Rochester immediately. From the character of the recommendations that accompany the Planter, we have little doubt its performance will be found such as to gratify our farmers, and class it deservedly among the labor saving machines.—*Ibid.*